



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,260	10/29/2007	Tristan Richard Ghislain Davenne	M04B101	1848
20411	7590	06/03/2009	EXAMINER	
The BOC Group, Inc. 575 MOUNTAIN AVENUE MURRAY HILL, NJ 07974-2082				KRAUSE, JUSTIN MITCHELL
ART UNIT		PAPER NUMBER		
3656				
		MAIL DATE		DELIVERY MODE
		06/03/2009		PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/594,260	DAVENNE ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	JUSTIN KRAUSE	3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 31 July 2008.
- 2a) This action is **FINAL**.                                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-17 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-17 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 31 July 2008 is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date <u>9/25/06</u> .	6) <input type="checkbox"/> Other: _____ .

## **DETAILED ACTION**

### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: There is no antecedent basis in the specification for "means for increasing the critical eccentricity" (claim 2), "means for reducing torsional vibrations and noise comprises mutually repelling magnets" (claim 13), "means for reducing torsional vibrations and noise is arranged to maintain the phase relationship between the shafts" (Claim 14), or "means for reducing torsional vibrations is arranged to permit a solid drive to be established" (claim 15).

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "plurality of springs" (claim 11), "viscoelastic member" (claim 12), and "mutually repelling magnets" (claim 13) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 14, there is no disclosure in the specification which sets forth how the device maintains a phase relationship. It is not understood how one of ordinary

skill in the art is enabled to make or use the device in the claimed manner, since there is no associated disclosure for how the device is structured or what the device does to permit the phase relationship to be maintained.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 8-12, 14 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 2, it is unclear what the "critical eccentricity" is or how it is determined. Further there is no antecedent basis for "the critical eccentricity".

Claim element "means for increasing the critical eccentricity" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. There is no disclosure of a means which facilitates the claimed function.

Applicant is required to:

- (a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or
- (b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

- (a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or
- (b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Regarding claim 8 (and subsequently 9-12), there is no antecedent basis for "the means for inhibiting torsional vibrations and noise". The limitation appears to be analogous to the "means for reducing torsional vibrations and noise" and for the purpose of examination, this is assumed. Claims 8 and 9 should be amended to recite -- the means for reducing torsional vibrations and noise-- to have proper antecedent basis to claim 1.

Regarding claim 14, "the phase relationship" lacks antecedent basis.

Regarding claim 16, the claim limitation "means for reducing torsional vibrations and noise provided between the hub member and the annular member and having a

stiffness capable of reducing torsional vibrations and noise induced during rotation of the gears by the eccentricity of at least one of the gears" uses the phrase "means for" or "step for", but it is modified by some structure, material, or acts recited in the claim. It is unclear whether the recited structure, material, or acts are sufficient for performing the claimed function which would preclude application of 35 U.S.C. 112, sixth paragraph, because it is unclear if the structure recited, "having stiffness capable of reducing torsional vibrations and noise. . ." modifies the "means for" language sufficiently to perform the function claimed.

If applicant wishes to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that the phrase "means for" or "step for" is clearly **not** modified by sufficient structure, material, or acts for performing the claimed function.

If applicant does **not** wish to have the claim limitation treated under 35 U.S.C. 112, sixth paragraph, applicant is required to amend the claim so that it will clearly not be a means (or step) plus function limitation (e.g., deleting the phrase "means for" or "step for").

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 12, and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi (US Patent 6,647,818).

Takeuchi discloses a gear assembly for transmitting torque from one shaft to another comprising:

Two intermeshing gears (10, gear 10 is equipped with teeth 11 on the outer perimeter to mesh with another gear on another shaft),  
one of the gears comprising a hub member (17) for receiving one of the shafts (via connection 17b),

a toothed annular member (generally 10) mounted for rotation with the hub member, and

means for reducing torsional vibrations and noise provided between the hub member and the annular member (32) and having a stiffness capable of reducing torsional vibrations and noise induced during rotation of the gears by the eccentricity of one of the gears (see for example, col. 9, line 60-col. 10, line 14).

Regarding claim 2, as best understood, the means for reducing torsional vibrations and noise comprises means for increasing the critical eccentricity of the gear.

Regarding claim 3, the means for reducing torsional vibrations and noise comprises a resilient coupling (see col. 9, line 60-col. 10, line 14).

Regarding claim 4, the means for reducing torsional vibrations and noise is located between a radial surface of the hub member (17a) and an opposing radial surface (15) of the annular member.

Regarding claim 5, the means for reducing torsional vibrations and noise is located within a drive mechanism.

Regarding claim 6, one of the hub member and the annular member comprises a recess (14) for receiving a detent (17a) of the other of the hub member and annular member, the means for reducing torsional vibrations and noise being located between the opposing surfaces of the recess and detent (see for example, figures 7-12).

Regarding claim 7, one of the hub member and the annular member comprises a plurality of recesses (14a) for receiving a plurality of detents (17a) of the other of the hub member and annular member, the means for reducing torsional vibrations and noise being located between the opposing surfaces of the recess and detent (see for example, figures 7-12).

Regarding claim 8, the means for reducing torsional vibrations and noise comprises a resilient member (32).

Regarding claim 9, the means for reducing torsional vibrations and noise comprises a plurality of resilient members (32) each located between respective opposing surfaces of the hub member and annular member.

Regarding claim 10, each resilient member comprises a spring (32).

Regarding claim 12, each resilient member is a viscoelastic member (members 32 are molded from resin).

Regarding claim 14, as best understood, the means for reducing torsional vibrations and noise is arranged to maintain the phase relationship between the shafts.

Regarding claim 15, the means for reducing torsional vibrations and noise is arranged to permit a solid drive to be established above a predetermined drive torque (above a certain torque level, elements 17a will sufficiently compress the elastic members 32 with make contact with elements 15, establishing a solid drive).

Regarding claim 16, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Takeuchi discloses all of the claimed subject matter as described above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi as applied to claim 9 above, further in view of Fenelon (US Patent 5,692,410).

Takeuchi does not disclose each resilient member comprising a plurality of springs.

Fenelon teaches each resilient member comprising a plurality of springs (65 and 63) for the purpose of dissipating stress within the structure of the gear.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takeuchi such that each resilient member is comprised of a plurality of the springs for the desired purpose of dissipating stress within the gear structure as taught by Fenelon. The use of multiple springs would provide advantages such as the ability to use multiple spring rates in order to facilitate progressive damping.

Claim 13, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi as applied to claim 1 above, further in view of Forch (US 2002/0069718).

Takeuchi does not disclose the means for reducing torsional vibrations and noise comprising mutually repelling magnets.

Forch teaches the use of mutually repelling magnets for the purpose of generating a preload within a gear stage (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Takeuchi to include the means for reducing torsional vibrations and noise comprising mutually repelling magnets for the purpose of generating a preload within the gear stage between the opposing surfaces of the hub member and annular member as taught by Forch.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN KRAUSE whose telephone number is (571)272-3012. The examiner can normally be reached on Monday - Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Justin Krause/  
Examiner, Art Unit 3656  
/Thomas R. Hannon/  
Primary Examiner, Art Unit 3656